

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the amendment and following discussion is respectfully requested.

Claims 1-22 are presently pending in this application, Claims 1-9 and 11-22 having been amended by the present amendment.

In the outstanding Office Action, Claims 1-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2001-334114 (hereinafter “JP ‘114”) in view of Ichikawa et al. (U.S. Patent 7,056,568).

Claims 1-9 and 11-22 have been amended solely for clarity. Thus, the amendments are believed to find full support in the specification, claims and drawings as originally filed, and no new matter is believed to be added thereby. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive mutually agreeable claim language.

Briefly, Claim 1 is directed to a honeycomb structural body and recites “at least one pillar-shaped porous ceramic member comprising a silicon-ceramic composite material, the silicon-ceramic composite material comprising a silicon constituent and a ceramic constituent, the at least one pillar-shaped porous ceramic member having a plurality of through-holes extending in a longitudinal direction of the at least one pillar-shaped porous ceramic member and a plurality of partitions separating the through-holes, wherein the through-holes are plugged such that an opening area at one end face of the at least one pillar-shaped porous ceramic member is different from an opening area at the other end face of the at least one pillar-shaped porous ceramic member.”

The outstanding Office Action states that the subject matters recited in Claims 1 and 3 are unpatentable over JP ‘114 (“Morishige”) and Ichikawa et al. because “[i]t would have

been obvious to ... combine the honeycomb structure of Morishige with the honeycomb structure utilizing silicon-silicon carbide composite material of Ichikawa to make a honeycomb structure with enhanced heat resistance and thermal conductivity.” Applicants respectfully traverse as follows.

Ichikawa et al. describes a large number of various ceramic materials, including cordierite, mullite, alumina, spinel, silicon carbide, silicon carbide-cordierite composite, silicon-silicon carbide composite, silicon nitride, lithium aluminum silicate, aluminum titanate, etc.,¹ and it simply states that “from the standpoints of thermal conductivity and heat resistance, silicon carbide or a silicon-silicon carbide composite material is particularly suitable.”² Thus, it is believed that Ichikawa et al. merely lists a broad spectrum of ceramics and that among them, both silicon carbide and a silicon-silicon carbide composite material are equally acceptable for their invention from the thermal conductivity and heat resistance standpoints. On the other hand, Table 1 in Applicants’ specification clearly shows that the filters using a silicon-silicon carbide composite are significantly superior to the filters made of only silicon carbide in not only “Thermal shock” but also “Catching limit” and “Accumulated amount ratio of ash.”³ As such, it is respectfully submitted that neither JP ‘114 nor Ichikawa et al. individually teaches or suggests “at least one pillar-shaped porous ceramic member comprising a silicon-ceramic composite material, the silicon-ceramic composite material comprising a silicon constituent and a ceramic constituent, the at least one pillar-shaped porous ceramic member having a plurality of through-holes extending in a longitudinal direction of the at least one pillar-shaped porous ceramic member and a plurality of partitions separating the through-holes, wherein the through-holes are plugged such that an

¹ See Ichikawa et al., column 7, line 61, to column 8, line 3.

² Ichikawa et al., column 8, lines 4-6.

³ See Specification, page 51, Table 1.

opening area at one end face of the at least one pillar-shaped porous ceramic member is different from an opening area at the other end face of the at least one pillar-shaped porous ceramic member” as recited in Claim 1, and their teachings even in combination are not believed to render the honeycomb structural body recited in Claim 1 obvious. Applicants therefore respectfully request that the outstanding obviousness rejection based on JP ‘114 and Ichikawa et al. be withdrawn.

Likewise, Claim 3 recites “at least one pillar-shaped porous ceramic member comprising a silicon-ceramic composite material, the silicon-ceramic composite material comprising a silicon constituent and a ceramic constituent, the at least one pillar-shaped porous ceramic member having a plurality of through-holes extending in a longitudinal direction of the at least one pillar-shaped porous ceramic member and a plurality of partitions separating the through holes, wherein the plurality of through-holes includes a group of large volume through-holes plugged so as to make relatively large a sum of opening areas at one end face perpendicular to the longitudinal direction, and a group of small volume through-holes plugged so as to make relatively small a sum of opening areas at the other end face,” and is believed to be distinguishable from both JP ‘114 and Ichikawa et al.

For the foregoing reasons, Claims 1 and 3 are believed to be allowable. Furthermore, since Claims 2 and 4-22 depend directly or indirectly from either Claim 1 or 3, these dependent claims are also believed to be allowable for substantially the same reasons set forth above.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Akihiro Yamazaki', is written over a horizontal line.

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